contracts, perform accounting or to respond to trouble reports all on behalf of the attaching entities. It also includes the cost of purchasing, storing and maintaining the equipment necessary to support a pole population that would not otherwise be required by the Electric Utilities absent the existence of third party attachers. [156/] These resources directly benefit parties with attachments on utility poles, but they are not recovered currently through the pole attachment rate formula. The Electric Utilities suggest that they should be recoverable and urge the Commission to revise its formula to include operation expenses.

3. The Utilities Support The Agency's Proposed Rate Of Return As A Fallback

128. The FCC allows a utility to include a return on pole-related investment in its pole attachment rate charges. In the NPRM, the FCC proposes to allow all utilities subject to the Pole Attachments Act to use in pole attachment rate calculations the rate of return percentage of 11.25% that the FCC applies currently to rate-of-return local exchange carriers. [157/] The Electric Utilities are willing to utilize this rate of return, as a fallback rate, in their pole attachment rate calculations. [158/]

156/ For example, the utility must purchase large boom trucks to place electric conductors at the top of taller poles. The Commission itself recognized this problem in the Local Competition Order when it stated that "the transportation, installation and maintenance of taller poles can entail different and more costly practices." Local Competition Order ¶ 1163.

157/ NPRM ¶ 37 (citing 11 FCC Rcd 17539, ¶ 166 (1996)).

158/ For example, the fallback rate could be applicable in instances when state rates are more than one year old at the time that a given pole attachment agreement was executed or in instances when the utility has moved to performance-based rate regulation.

E. The Utilities Support The FCC's Proposal Allowing For The Use Of Gross Costs

129. The FCC requested comment on whether utilities should be allowed to use gross versus net costs in calculating pole attachment rate.[159] Under current rules, this practice is allowed when both parties to the pole attachment negotiations agree.[160] The FCC has proposed going to a model using both gross and net pole investment. Carrying charges for maintenance, depreciation, and administrative expense would be calculated based on gross book costs.[161] The Electric Utilities do not object to this proposal,[162] however, it is recommended that it be left to the utility to choose whether it wants to use the proposed method or continue to use the current net book method.

130. The Electric Utilities also believe the two carrying charges that use net book cost should not be permitted to go below zero percent. That is, if net pole plant is negative because of the problems with removal cost cited by the FCC, the formula would not calculate a carrying charge for rate of return or income tax. Therefore, the attacher would only pay the three carrying charges that are calculated on gross book costs.

159/ NPRM ¶ 29.

160/ TeleCable of Piedmont Inc. v. Duke Power Co., Hearing Designation Order, 10 FCC Rcd No. 21, DA 95-1362 (CCB, June 15, 1995).

161/ NPRM n.63.

162/ A far superior approach is to go to the forward-looking economic pricing model proposed in Section VII. This method would solve the negative net pole issue while retaining the current formula's simplicity.

131. The FCC has suggested that their gross book cost proposal would simplify the calculation. The Electric Utilities do not agree, since net book costs would still be required to be calculated for two components. The Electric Utilities also believe that any change in the rate would be minor and would not result in increases in the rate for all, or perhaps even, most utilities. The proposal does have some merit in alleviating the negative net investment problem.

132. If the FCC does adopt this proposal it must also incorporate in the gross formula the recommended changes to the current net formula discussed in the prior section. Gross pole plant should include a portion of accounts 365 and 368, and the maintenance carrying charge should be expanded to an O&M carrying charge and to include the additional operation and maintenance accounts suggested. As with the current net formula, a general plant component should also be included.

F. The Utilities Are Not Experiencing Negative Net Investment

133. The Commission has asked parties to comment on the extent to which they are encountering negative net investment problems when using the current pole attachment formula.[163/] The Electric Utilities are not generally facing negative net investment problems, however, they believe the existence of this problem reflects the flaws inherent in the current pole attachment rate formula.

[163/] NPRM ¶¶ 17, 21.

G. Overlashed Cable Should Be Subject To An Attachment Fee

134. The Commission invited interested parties to provide comment on any other issue that it wishes the agency to take into consideration in the current rulemaking. As the Electric Utilities are seeing a rise in a construction practice referred to commonly as "overlashing," it is critical that the Commission be aware of the effect that overlashing can have on the integrity of a pole.

135. In addressing pole access and denial of access issues raised in the Local Competition Order, the Commission noted that one way of "maximizing useable capacity [on a pole] is to permit 'overlashing,' by which a new cable is wrapped around an existing wire, rather than being strung separately."[164/] The Electric Utilities concur that, under certain conditions, overlashing may be an acceptable solution to a lack of sufficient space (although not pole loading capacity) to permit another attachment. However, overlashing is not appropriate in all circumstances.

136. The most critical issues raised by overlashing are related to safety and electric distribution reliability.[165/] As noted below loading, poles have limited capacity.[166/] While overlashed lines may not take up more space on a pole from the

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164/ Local Competition Order ¶ 1161.

165/ The Common Carrier Bureau acknowledged that safety concerns could justify the precautions taken by a utility prior to allowing entities to overlash fiber. Common Carrier Bureau Cautions Owners of Utility Poles, 1995 FCC LEXIS 193, Public Notice, Release No. DA 95-35 (Jan. 11, 1995).

166/ See discussion infra Section VIII.H.

perspective of feet and inches,[167] the increased diameter of the cables strung on the pole does cause an increase in the resistance the overlashed cables will have to wind and the surface on which ice can accumulate.[168] As a result, prior to overlashing any cable, the Commission must require that an attaching entity consult with the utility to ensure that the additional attachment will not exceed the load capacity of the poles in question. A failure by the attaching entity to take this step could result in a failure of the pole to withstand normal winds and ice loading, thus causing electricity and other attacher service outages and exposing members of the general public to potential danger from fallen electric conductors or low sagging attachments.

137. Overlashing also raises numerous fairness concerns associated with ensuring that proper compensation is paid by the attacher.[169] The Electric Utilities suggest that the overlashing party should be required to pay the full attachment rate to the utility because the overlashing party takes up load capacity on the pole equal to or greater than a regular attachment.[170] Because overlashing takes up capacity on a pole, it can also be a contributing factor to the utility having to change out a pole to

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167/ Some additional space may be required if the extra weight stemming from the overlashing causes an increased amount of mid-span sag.

168/ See discussion infra Section VIII.H.

169/ A similar concern is triggered by certain brackets owned by the utilities, but used by cable operators to expand the amount of cable attached to the pole. Some electric utilities have found these attachments to have been made without the utility's prior consent, without concern for safety or the integrity of the pole and without the payment of an attachment fee.

170/ Based on a calculation by one utility, overlashing expends somewhere in the range of 9% to 15% of the capacity of a class 5, 40-foot pole.

accommodate attachments to the pole by a third party or by the utility. As a result, the utility or third party may be forced to pay for the placement of a new pole.

138. Finally, while overlashing may appear to be an easy way to maximize the capacity of a pole, further analysis demonstrates that the opposite can be true. In instances where new cable is overlashed over obsolete cable, the capacity of the pole would be increased if the obsolete cable was removed and the overlashed cable was attached directly to the pole. Unregulated overlashing, therefore, can lead to inefficient use of limited pole capacity because there is no incentive for parties with existing attachments to remove obsolete cable.

139. Treating overlashing as a pole attachment and requiring overlashing attachers to pay for access to the pole ensures that all attaching entities are contributing to the cost of the pole instead of giving the overlasher a free ride and making later attachers pay solely for the change-out of a pole necessitated by the overlashed attachers. It will also ensure that the pole will be used efficiently because attachers will have incentive to remove cables that are no longer useful.

140. In addition, the Electric Utilities suggest that the following rules be established as a condition of overlashing:

- Parties seeking to overlash must obtain the pole owner's prior approval before any overlashing is performed.
- Parties seeking to overlash, and entities that are currently overlashing, must have a pole attachment agreement with the utility pole owner before overlashing occurs.
- Parties seeking to overlash must calculate not only the incremental effect of their attachment on the pole, but also the total effect of all attachments, in order to maintain and ensure pole integrity. Overlashing attachers must also be required to comply with all other applicable safety, reliability and engineering standards and specifications.

- Parties seeking to overlash must separately identify their facilities.

141. The Electric Utilities urge the adoption of the above rules to protect the integrity of the electric distribution system and the pole, the general public from safety hazards and service outages, and the utility from additional liability stemming from an attacher without an agreement. The Commission also should set appropriate penalties, including monetary forfeitures, for failure to comply with its overlashing rules.

H. Pole Capacity Is A Critical Determinate For Allocating Space On A Pole

142. The Commission currently determines the amount of usable space, the number of attachers allowed on a pole and the amount of space occupied by any given attacher on the basis of the height of the pole. While the height of the pole is one factor properly considered by the FCC when allocating space on a pole, the number of attachments that a pole can bear cannot be derived merely by considering the height of a pole. The FCC must consider the capacity of the pole as one of the standards of engineering that is determinative of whether access to a pole is feasible and how much usable space is truly available on the pole.[171]

143. The issue of pole capacity has taken on greater importance because of the potential for an increased number of attachers. Historically, utilities were confronted only with loading issues stemming from electric and telephone utility attachments and <u>one</u> additional cable attacher. However, with the passage of the 1996 Act and the increase in the number of potential attaching entities, the Electric Utilities

[171] 47 U.S.C. § 224(f)(2).

believe it is critical that the Commission now take into account pole capacity when making any determinations about allocating space on a pole.

144. The class of a pole is the first factor to consider in determining pole capacity. The class of a pole is defined by the circumference of a pole.[172/] Wood poles are traditionally divided into at least seven classes that define the width, and ultimately the strength of the pole based on height, material (at least ten wood varieties), preservative type and condition of the pole.[173/] As the diameter of a pole increases, the class of pole decreases and the pole is able to bear a greater number of attachments

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172/ The typical circumference of CCA-Treated Southern Yellow Pine Poles at the Base is:

Pole Height/Class	35'/5	40'/5	40'/4	45'/4
Circumference	31.3"	33.1"	36.7"	37.2"

173/ The minimum diameter of a wood circular pole, based on transverse loading can be determined using the following simple formula:

$$C = \sqrt[3]{\frac{M}{0.000264 \times f}}$$

Where:

M = The ultimate moment applied to the pole (based on attachments, their attachment height, span length and their exposed surface (ft-lb))

f = Fiber stress for the material as tested and defined by the manufacturer (PSI).

C = Circumference (inches) of the point on the pole where the moment is the greatest.

without being subject to an improper amount of bend at the ground level base of the pole.[174/]

145. Poles are subject to bending based on the pole itself and on the size and weight of items attached to a pole. In the first case, the pole represents a solid surface that can be struck by wind and made to bend.[175/] In addition, non-wire equipment placed on a pole can cause the pole to bend depending on the shape of the pole and the materials used to construct the pole.[176/] This concept is easily understood and all utilities take these engineering factors into account when determining how many attachments a pole can bear.

146. Wind loading involves the resistance given by an attachment to a pole that stems from the attachment's surface area exposed to the wind. In the case of a wireline pole attachment, engineers would look at the diameter of the cable to determine the wind loading factor associated with the attachment.[177/] For example, while a fiber optic cable may weigh very little and may not take up a large amount of space on a pole

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174/ This concept is technically measured in terms of ground line moments. A pole placed in the ground can be viewed as a lever. The "lever" can be made to bend at the ground line point. Some degree of flexibility at this point is required to ensure that the pole has the ability to move as attachments are added or as weather conditions change. However, every pole has a point at which the amount of pressure placed on the pole causes the pole to bend too far. The amount of bend a pole can withstand is measured by ground line moments. The larger the diameter of a pole, the more pressure the pole can withstand without reaching a ground line moment that will either cause the pole to snap or cause the attachments to become detached.

175/ 1997 NESC Rule 252.

176/ Id.

177/ 1997 NESC Rule 251.

in terms of inches occupied, the same fiber optic cable may occupy or consume a much greater portion of the pole's capacity due to wind loading. For example, a horizontally attached fiber optic cable, when caught in the wind, can exert more pressure on a pole than an 800-pound electricity transformer placed on the pole.

147. The wind loading parameters that utilities must follow vary by the geographic location of the pole.[178/] For example, utilities hanging wire on poles located in Southern Florida with basic wind speed designs of 110 miles per hour may be subject to more stringent wind loading rules due to hurricanes than utilities with poles on the west coast of California with basic wind speed designs of 70 miles per hour.[179/]

148. A utility must also consider ice factors. When ice builds on cables strung from poles, it increases the diameter of the cable and thus increases the wind resistance.[180/] The weight of the attachment also increases.[181/] As a result, utilities operating in areas subject to freezing temperatures are subject to different wind loading requirements that acknowledge ice loading on conductors.[182/] Overlashing of cable exacerbates the wind load burden placed on any pole.[183/] This is because the overlashed cable increases the diameter of the horizontal attachment thus offering more

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178/ 1997 NESC Rule 250.

179/ See 1997 NESC, Figure 250-2 for a general loading map of the United States.

180/ See NESC Handbook 4th ed. at 334.

181/ Id.

182/ 1997 NESC Rules 250, 251.

183/ This factor provides further justification as to why electric utilities need to know when overlashing is occurring. See discussion supra Section VIII.G.

wind resistance. The uneven surface created by overlashing also increases the likelihood and amount of radial ice that can accumulate on the cable.

149. Finally, the frequency and degree of changes in temperature must be considered. Temperature changes can lead to additional stress being placed on a pole.[184] Furthermore, the duration of freezing temperatures is relevant to the amount of ice that can build on a wire attachment, thus affecting the amount of wind resistance and weight that a cable can be expected to place on a pole during certain times of the year.

150. The NESC takes into consideration wind, ice and temperature in order to divide the United States into general loading zones.[185] The NESC then established minimum load standards that utilities operating in such zones must follow in order to comply with the code.[186]

151. In addition, taller poles are subject to greater loading constraints. Thus, while logically it would appear that a utility should be able to accommodate more attachers by putting in place taller poles, there is not a direct correlation between the height of pole and the corresponding usable space and number of attachers that can be accommodated on the pole.[187]

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[184] NESC Handbook at 328.

[185] 1997 NESC, Figure 250-1.

[186] Id.

[187] Some parties may also argue that the number of attachments that a pole can bear can be increased through the use of innovative brackets that allow parties to attach in parallel. While these advancements in pole technology may allow pole owners to optimize the means by which attachments can be placed on the

152. Any calculation of the capacity of a pole must take into account the loading factor associated with the pole as dictated by the location of the pole, the height, strength and class of the pole, the diameter of each attachment to the pole and the overall wind loading burden placed on a pole by all attachments. [188/] This analysis leads to the conclusion that capacity, as an added variable, will affect the maximum number of attachers that can be accommodated on a typical class 5, 40-foot pole. It also follows that usable space cannot be measured solely in terms of linear feet.

153. Factoring in pole capacity will result in more accurate pole attachment rate calculations. Furthermore, taking into account pole capacity when implementing § 224 is competitively neutral, inclusive of sound engineering principals and will encourage all attachers to implement efficient attachments so as to reduce the capacity they occupy on a pole.

IX. Conduit Attachment Rate Methodology

154. The Commission is proposing a new conduit formula as part of this rulemaking. This formula is nearly identical to the agency's existing CATV pole rate

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pole, attachments on such brackets still affect the overall capacity of a pole. For example, each new cable attachment increases the load on the pole. In addition, a bracketed attachment can lead to off-centered loads that create additional ground moment issues. So while intuitively it might appear that more attachments will be possible by placing taller poles or implementing changes in technology, any proportional increase in usable space is actually reduced as more attachers are placed on any given pole.

188/ NESC Handbook at 339-42 and Figure H26-1 provides a description of how each of these factors affects the integrity of a pole.

formula.[189] The intent is to adopt a formula that can be uniformly applied to all utility conduit. The proposed formula must be rejected because: (1) the electric utilities do not have the detailed information necessary to apply the proposed formula; (2) the electric utilities cannot share duct space with telecommunications providers; (3) the agency defines the asset too narrowly; and (4) it improperly treats reserve space. Furthermore, due to the nature of conduit, a modified pole formula applied uniformly to all conduit is not feasible. As a result, the Electric Utilities propose an alternative conduit formula – the individual case basis ("ICB") formula discussed below – that the Commission should adopt to derive a just and reasonable conduit rate.

A. The Commission Is Not Bound To Applying The Pole Attachment Formula To Conduit Systems

155. The 1978 legislative history of the Pole Attachments Act reveals that Congress largely considered the legislation in the context of access to distribution poles. Indeed, the Senate Report focused almost exclusively on distribution poles.[190] At the time Congress considered the Pole Attachments Act legislation, "[a]pproximately 95% of all CATV cables [we]re strung above ground on utility poles."[191]

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[189] NPRM ¶ 39.

[190] For example, according to the Senate Report, "[t]he underlying concept of S. 1547, as reported, is to assure that the communications space on utility poles, created as a result of private agreement between non-telephone companies and telephone companies, or between non-telephone companies and cable television companies, be made available, at just and reasonable rates, and under just and reasonable terms and conditions, to CATV systems." S. Rep. No. 95-580, at 15.

[191] S. Rep. No. 95-580, at 12.

156. For this reason, the legislative history is virtually silent on how the Commission should treat pricing for conduit.[192] To date, the Commission has never adopted rules interpreting the provisions of the statute dealing with conduit.[193] As such, the Commission should recognize that it has discretion to interpret its rate methodology for conduit to be consistent with contemporary costing methodologies. It should not feel bound to exactly duplicate for conduits the methodology it has used historically for poles.

B. The FCC's Proposed Conduit Rate Formula Must Be Rejected

157. The FCC has proposed the following conduit rate formula:

$$\text{Maximum rate} = \frac{\text{1 Duct}}{\text{Avg. \# of Ducts}} \times \frac{1}{2} \times \text{Net Linear Cost Conduit} \times \text{Carrying Charges}$$

This formula was utilized by the Massachusetts Department of Public Utilities ("MDPU")[194] and was later relied on by the Commission in its Multimedia Order.[195]

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[192] Congress specifically excluded cooperatively owned utilities from the legislation, concluding that the majority of their plant is buried underground in trenches for which, at the time, there were no leasing arrangements with cable companies. See S. Rep. No. 95-580, at 18.

[193] In its Hearing Designation Order in Multimedia Cablevision, Inc. v. Southwestern Bell Tel. Co., C.S. Docket No. 96-181, FCC 96-362 (Sept. 3, 1996), the Commission determined to use the pole rate formula as a starting point for a conduit rate formula. Significantly, however, in the Multimedia Hearing Designation Order, the Commission did not have the benefit of industry comment and the parties to the case eventually settled the dispute without further Commission involvement.

[194] Greater Media, Inc. v. New England Telephone & Telegraph, Massachusetts D.P.U. 91-218 (1992).

[195] Multimedia Cablevision, Inc. v. Southwestern Bell Telephone, CS Docket No. 96-181, FCC 96-362 (Sept. 3, 1996).

In both of these instances, the agencies took the pole formula and tried to retrofit it to accommodate access to conduit. While this approach may have served as a stop-gap measure in cases where the Commission did not have an actual formula on which to rely, the Electric Utilities suggest that the proposed formula contains fundamental flaws and must be rejected.

1. Electric Utilities Do Not Have Detailed Information About The Nature Or Extent Of Their Deployed Conduit Systems

158. Application of the agency's conduit rate formula requires information that the utilities do not have. The Electric Utilities cannot readily determine the number of feet of conduit or the number of ducts deployed or available in their system.[196] Unlike poles, the Electric Utilities have not kept detailed records on the conduit systems they have constructed. This is because there has never been any business need to do so. The Electric Utilities also have limited information about the historic cost of deploying their conduit systems, especially for purposes of calculating the net linear cost of conduit. To the extent that accounting data does exist, it is old and incomplete. Accordingly, the agency's proposed conduit formula would be unworkable and should be rejected.

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[196] If the Electric Utilities were required to survey their entire networks to gather this information, this would be time consuming and extremely costly. The costs of collecting this information would have to be passed on to those wanting conduit access, as electric utilities are precluded by their state regulators from passing such costs off to their ratepayers. A better and less costly approach would be the ICB approach discussed infra at Section IX.C.2.

2. The FCC Has Adopted An Incorrect Definition For Determining A Conduit Attachment Rate

159. The Commission's proposed conduit rate formula appears to be addressing access to a pipe placed in the ground through which cables are pulled.[197/] This definition is simply too narrow and does not take into account the actual utility conduit infrastructure.

160. The Commission should be using "conduit system" as the relevant infrastructure element to which conduit attachments are made.[198/] The electric utility industry defines "conduit" as a combination of one or more ducts, where a "duct" is a single raceway through which conductors are placed.[199/] A "conduit system" is comprised of ducts, conduit, cement or other encasement materials, vaults, handholes, manholes and other related equipment that allow for deployment of, access to, and maintenance of cable facilities.[200/] The definitional distinction must be made because the attacher must access and use the entire conduit system, even though it requests access to a certain number of ducts or conduit. Any calculation of a just and reasonable conduit rate must be based on a "conduit system." Accordingly, if the agency decides to proceed with its proposed approach, it must adjust its formula to take this into account.

197/ NPRM n.3 (providing a definition of "conduit").

198/ See Exhibit 6 for a general depiction of a conduit system.

199/ Id. (defining "conduit").

200/ See 1997 NESC, Section 2 (defining "conduit", "duct" and "conduit system").

3. The Half-Duct Methodology Should Not Be Applied To Electric Utility Conduit

161. The half-duct methodology proposed by the Commission fails to consider that an electric utility is often precluded from sharing space. Because it assumes that the sharing of conduit or duct space is uniformly possible by all utilities, the application of this methodology would unfairly lead to under-recovery by an electric utility.

162. The content of footnote 83 of the rulemaking demonstrates that the Commission assumes co-occupancy is equally possible for all users and providers of conduit.[201/] The Commission relies on this concept to justify a reduction in the cost allocated to an attacher. However, the Commission is incorrect in its assumption that electric utilities can place their own high voltage conductor cable in a duct with a telecommunications facility.[202/] While communications facilities and electric conductors can theoretically co-exist in some instances in the same conduit system, they can never co-exist in the same duct. Consequently, there are limitations on the proximity that can be allowed between such electric conductors and fiber optic or copper cables without causing interference with communications transmissions or damage to the communications facility itself. Multiple copper cables usually can share duct space without the signal carried over any one piece of cable suffering from signal degradation. If an electric conductor was placed into the same duct as copper cable, interference would likely occur. Furthermore, the NESC precludes the installation of supply, control

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201/ NPRM ¶ 44 & n.83.

202/ Id.

and communications cables in the same duct "unless the cables are maintained or operated by the same utility."[203]

163. In addition, in many instances the attacher requests its own duct(s). These requests are made because not all cable or telecommunications service providers want to invest in facilities that are heat resistant, or because the attacher has concerns that a cable cut can occur while a second cable or telecommunications facility is run through the same duct or while the second attacher makes repairs or modifications to their own facilities.[204] Most importantly, because electric and other attachers cannot co-exist in the same duct, once a cable or telecommunications provider occupies any portion of a duct, it is unusable for electric service purposes. Therefore, the attacher should pay for use of the whole duct.

164. Finally, while the FCC is relying on a methodology developed by the MDPU, there is no evidence that the MDPU intended that this methodology be applied to electric utilities' unique situation. Consequently, the Greater Media decision should not serve as the basis for the Commission's conduit formula.[205] The Commission also should not rely on the findings in Greater Media as the basis for justifying the

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[203] 1997 NESC, Rule 341A6.

[204] These are realistic concerns that lead to a "capacity" constraint similar to that experienced on poles. While a cable or telecommunications facility may only occupy a quarter of a duct's space, the duct may actually be 100% occupied due to the inability of the utility to run any other utility or non-utility facilities into the same duct. In this circumstance, even where the attacher did not request its own duct, the Commission should find that the entire duct capacity is occupied and eliminate the need to apply the half-duct adjustment.

[205] Greater Media, Inc. v. New England Telephone & Telegraph, Massachusetts D.P.U. 91-218 (1992).

application of the formula adopted in that case to all utilities subject to the rules developed pursuant to this rulemaking.

4. The Commission's Treatment Of Reserve Space Is Too Narrow

165. The Electric Utilities support the Commission's proposal that attachers should pay for any reserved ducts from which they derive some form of benefit.[206/] The Electric Utilities, however, are concerned that the Commission's view of what constitutes a "benefit" may be too narrow. For example, if the terms of a conduit agreement provide any indication that the attacher expects to derive some benefit from the reserve space, the agreement should be dispositive and the utility should be able to charge for the reserve space. Where the agreement is not dispositive, but there are other benefits that are common to any conduit access arrangement with an electric utility, the same adjustment should be made. Finally, certain benefits are unique to a provider, an attacher or a given arrangement. For example, if a utility commonly allows the attacher to make temporary use of reserve ducts to allow the attacher to repair a cable cut, the utility should be allowed to charge for the reserve space. Each of these benefits is extremely fact-specific. Application of a generalized formula such as the one proposed by the agency will cause it to fail to consider all of the facts associated with a conduit arrangement. Thus, such a formula may lead to an incorrect valuation of the conduit access arrangement agreed to originally between the utility and the attacher.

206/ See NPRM ¶ 45.

C. The Commission Must Exercise Its Authority To Adopt A Formula That More Accurately Addresses The Unique Characteristics Of Electric Utility Conduit

1. Electric Utility Conduit Systems Are Unique

166. The Commission must bear in mind that the electric utility conduit systems differ fundamentally from other conduit systems. As a result, in contrast to poles, it is not possible for the Commission to develop a uniform conduit formula that is equally applicable to electric and telephone utility conduit systems. The Electric Utilities, therefore, recommend a customized approach, described below as an individual case basis conduit formula.

a. There Are No Definitive Standards Governing The Characteristics Of Conduit Systems

167. The lack of utility-wide standards for constructing conduit systems is one reason why a uniform conduit formula is not feasible. Conduit systems are constructed based on the unique requirements of each utility. While there are standards for ensuring the safety of workers or access to the conduit system, the characteristics of conduit systems are not uniform. Construction, size, design and standards are driven by such factors as the ease of installation and use of cables, electrical appurtenances and transformers. In addition, geographic location plays a large part in defining how a conduit system is constructed. For example, a conduit system constructed in a city with underground transportation systems will be built differently than a conduit system in a city without such a system. Conduit systems constructed in urban areas differ from those constructed in suburban areas. Finally, conduit systems constructed in different parts of the United States will be built to accommodate such factors as differences in weather,

soil and water tables. All of these factors, and many more, cause each utility to construct conduit systems differently.

b. An Electric Utility Must Take Special Precautions Prior To Allowing Attachers To Have Access To Its Conduit Systems

168. Generally speaking, underground conduit is used by the electric utilities to hold conductors that carry high voltage electric current. This simple fact raises several issues on the implications for applying a uniform conduit formula to all parties seeking access to an electric utility's conduit system.[207/]

169. For example, before an electric utility can allow an attacher to have access to a conduit system, the electric utility can be required to re-route electricity from the conductors active in the conduit system to other conductors. This is done both for the safety of the worker and to ensure that if the careless employee of an attacher causes a conductor break, electric service will not be interrupted.

170. The addition of third party equipment in a conduit system increases the risk of accidents to the utility's employees, thus increasing worker's compensation premiums. The utility may also be subject to lawsuits filed by telecommunications and cable workers injured while working on conduit. Finally, the electric utility will absorb the costs associated with the greater risk of system failure caused by accidents resulting from telecommunications and cable occupation of conduit, thereby reducing revenues,

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[207/] The FCC in the Local Competition Order ruled that electric utilities must allow attachers to install their own facilities on utility infrastructure including conduit. For safety reasons, the Electric Utilities have sought reconsideration of this requirement. See supra footnote 15.

service reliability and the goodwill towards the electric utility. The first two costs may be captured in certain of the administrative accounts included in a general formula, however, because such losses have not yet been experienced and are not reflected currently in these accounts, there will be a lag before the accounts include these expenses. The result is that the utility is placed in a position of being exposed to risk without the immediate ability to recover the associated costs of such risks.

171. Electric utilities will also incur additional expenses or "safety premiums" to mitigate these risks and to reduce their liability for the actions of third parties. For example, the electric utilities will be required to review the design of proposed installations and may have to escort, inspect and monitor all installation and maintenance activities of the attacher. These functions would involve a variety of electric utility employees qualified in the areas of electrical safety codes, OSHA confined space requirements, asbestos regulations and electric equipment technologies. While the Electric Utilities are unable to quantify these expenses at this time, they should have the ability to recover the additional "safety premiums" generated by a given attacher.

172. The nature and extent of such costs are dependent upon the identity of the attaching entity. Because the costs are attacher-specific, the Commission, utilities and attaching entities cannot predict the nature or extent of issues that might arise in any given conduit access arrangement. Therefore, a formula based on generalizations, such as the one the agency has proposed, is an improper means for calculating a just and reasonable conduit rate.

2. The Commission Must Adopt An Individual Case Basis Conduit Formula

173. Given that no two conduit systems are alike, the Electric Utilities are unable to identify all of the elements and costs that would be common to any conduit attachment. The Electric Utilities, therefore, suggest that the Commission address duct and conduit issues much like it addressed the access matters raised in the Local Competition Order. There, the Commission concluded that:

> The reasonableness of particular conditions of access imposed by a utility should be resolved on a case-specific basis.... The record makes clear that there are simply too many variables to permit any other approach with respect to access to the millions of utility poles and untold miles of conduit in the nation.[208/]

174. Thus, the Commission adopted only five general rules of applicability and several guidelines to assist the parties in reaching mutually agreeable access agreements. The Commission declined to set a comprehensive regime of specific rules.[209/] The same deregulatory approach should be applied to the derivation of the rate charged by a utility for access to its ducts and conduit.

175. The Electric Utilities urge the Commission to adopt the individual case basis conduit rate formula (the "ICB formula") presented below.

$$\text{Total Space} = \frac{\text{Space Occupied by Attacher}}{\text{Total Usable Space}} \times \text{Replacement Cost of Conduit} \times \text{Carrying Charges}$$

This formula includes forward-looking costs consistent with propositions discussed earlier in these Comments. The attachment rate is based upon the specific conduit route to

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208/ Local Competition Order ¶ 1143.

209/ Id.

which the attacher requests access and is derived using forward-looking economic costs associated with the ownership and maintenance of the conduit system.[210/]

176. This model is superior to the Commission's proposed model because it is built around the reality that, due to the uniqueness of conduit systems, the electric utility must evaluate the field conditions associated with each conduit attachment request in order to determine exactly what the attacher is accessing and the associated costs of such access. In addition, the ICB formula offers the best solution for addressing the many variables presented by conduit access. The Electric Utilities submit that such an

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210/ In order to ensure that the attachment rate reflects the true value of the conduit, the Commission should allow parties to use a forward-looking economic cost model as part of the ICB formula to determine the cost of the conduit attachment. This is appropriate because, even though the asset may no longer be considered to have a useful life based on its value on a utility's books, the asset may have value to the market and the price paid for access to such an asset should be closer to market value.

The Commission must also take into consideration that the poles and conduit that are the subject of this rulemaking were paid for by the utilities and their ratepayers. As such, any changes adopted by the Commission affect the prices paid by ratepayers for the core services offered by the utilities. If the Commission should adopt a pole or conduit formula that drops the price paid by parties to attach to a utility's infrastructure, this may eventually lead to an increase in the rates paid by utility customers. Where the utility's infrastructure is actually worth more or costs more than is recovered by the utilities under the FCC's current formula, the utility and its ratepayers should be able to derive some benefit from the increased value or should be allowed to recover all applicable costs. The ultimate point is that it is the ratepayers and not the utilities themselves that generally benefit from more accurate pole or conduit attachment rates. And while the Commission may not view electric utility ratepayers as a relevant constituency, to the extent that Congress has given the Commission authority to regulate a portion of the electric utility industry, the Commission must take the interests of such consumers into account if it is to truly serve the public interest through this rulemaking.

approach comports with what Congress envisioned in the 1996 Act and with the unique nature of ducts and conduit.

177. Use of ICB formula would result in a more accurate valuation of the conduit used by an attacher. When an attacher wishes to gain access to a utility conduit system, the attacher will tell the utility the beginning and ending points to which the attacher wishes to run its facilities. The utility will then complete a manhole-by-manhole search of the entire conduit system in order to determine whether the utility has space to accommodate the attachment and the length of the route that the utility and attacher select to reach the points requested by the attacher. Once the characteristics of the conduit system associated with the specific route required by the attacher are identified, an accurate rate can be calculated based on the forward-looking economic costs the utility would incur to replace the conduit over the length of the proposed route.

178. The forward-looking economic cost valuation of the conduit to be occupied can be derived on the basis of the costs an electric utility would incur to build a similar conduit system. The Electric Utilities suggest that cost studies could be used to assign such values to the conduit system components. [211/] In essence, an entity would price out the cost of materials, labor and other elements that go into constructing a conduit system to derive a per foot cost of conduit access. This per foot cost could be calculated

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211/ In the alternative, the Electric Utilities believe that cost proxy models can be used for the same purpose. "Forward-looking economic cost computer models ... could enable regulatory authorities to estimate the forward-looking cost of ... facilities and services without having to rely on detailed cost studies...." The Use of Computer Models for Estimating Forward-Looking Economic Costs A Staff Analysis, Staff of Common Carrier Bureau, Competitive Pricing Division, CPD Docket No: 97-2, 1997 FCC LEXIS 160, *2 (Jan. 9, 1997).